

ENTERED

June 27, 2024

Nathan Ochsner, Clerk

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

CACTUS WELLHEAD, LLC,

Plaintiff,

V.

CAMERON INTERNATIONAL
CORPORATION,

Defendant.

[illegible]

CIVIL ACTION NO. 4:21-cv-2720

MARKMAN ORDER

Pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), the Court conducted a claims construction hearing (“*Markman* hearing”) in the above styled matter. During the *Markman* hearing, the parties presented evidence and argument regarding the proper construction of disputed claim terms. Based on the evidence before the Court, the arguments presented by counsel, and the governing legal authorities, the Court issues this Memorandum and Order construing the terms contained in the various patents.

This lawsuit originated as a declaratory judgment action brought by Cactus Wellhead, LLC (“Cactus”) seeking declaratory judgment of non-infringement concerning 20 patents. Cameron International Corporation (“Cameron”) countersued for patent infringement of five patents in three somewhat affiliated families (the Asserted Patents):

- U.S. Patent No. 9,932,800 (“the ’800 Patent”) (Doc. No. 9-1), a continuation of U.S. Patent No. 10,094,195 (“the ’195 Patent”) (Doc. No. 9-2);
- U.S. Patent No. 11,162,320 (“the ’320 Patent”) (Doc. No. 9-5), a continuation of U.S. Patent No. 10,787,879 (“the ’879 Patent”) (Doc. No. 9-4); and

- U.S. Patent No. 10,385,662 (“the ’662 Patent”) (Doc. No. 9-3).

Cactus then dismissed its declaratory judgment claims for the other patents. (Doc. No. 22).

The case was later reassigned to this Court. (Doc. No. 47).

The technology at issue generally relates to systems and methods for hydraulic fracturing, which stimulates oil and gas production by pumping fluids down a well at high pressures and flow rates to fracture the rock formations where oil and gas are found. At a high level, fracturing fluid flows from a fracturing manifold to fracturing trees, where the fluid is then pumped underground into wells. A fracturing system may have multiple wellheads and multiple corresponding fracturing trees. Typically, the fracturing manifold provides fluid to the fracturing trees via fluid conduits. According to Cameron, these fluid conduits generally were made up of several, small-diameter fluid conduits (called a “frac iron”) that connected the outlet of the fracturing manifold to the top of the fracturing trees. Cameron’s Asserted Patents protect Cameron’s MONOLINE Fracture Fluid Delivery System. Cameron alleges that the MONOLINE system simplifies the fracturing process and makes it safer by using a single, rigid fluid conduit to connect the fracturing manifold to the fracturing trees rather than using a more traditional frac iron.

Also relevant is the fact that there is a related case involving Cameron’s MONOLINE system and its Asserted Patents. *Cameron Int’l Corp. v. Nitro Fluids L.L.C.*, No. 2021-1183, 2022 WL 636099 (Fed. Cir. March 4, 2022), appeal from IPR2019-00852 (hereinafter the “Nitro Case”). In the Nitro Case, Cameron also asserted the ’800 Patent, and Nitro filed a petition for *inter partes* review (“IPR”) against the ’800 Patent. The Patent Trial and Appeal Board (“PTAB”) instituted review and issued a Final Written Decision in September 2020, finding Nitro “ha[d] established by a preponderance of the evidence that each of claims 1, 3, 4, 5, 7, 8, and 17 are unpatentable but ha[d] not established that claims 2, 6, 9, 10, 11, 12, 13, 14, 15, 16, 18, or 19 are unpatentable.” (Doc. No. 64, Ex. 2 at 67). In so doing, the PTAB construed two claim terms in the ’800 Patent,

which are recited in the asserted claims of the '800 and '195 Patents at issue here. (*Id.* at 8–20). The Federal Circuit affirmed the PTAB's decision and constructions of the two terms in March 2022. *Nitro*, 2022 WL 636099 at *7. The two terms that the Federal Circuit addressed in the context of the '800 Patent were “fracturing trees” and “fracturing manifold.” These two terms are also at issue now, both in the context of the '800 and '195 Patent family, as well as the others.

I. Agreed Claim Terms

The parties have agreed, either in their briefings or by concession at the *Markman* hearing, to the following term constructions. These agreements comport with the rule that “the words of a claim are generally given their ordinary and customary meaning.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005). The ordinary and customary meaning of claim “is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1313.

Term(s)	Claim(s)	Agreed Construction
“fracturing tree”	'800 Patent: Claim 14 '195 Patent: Claim 1, 4, 7, 8	“a tree used to facilitate a fracturing process, and does not require a tree of a particular size or weight or a tree that is temporarily installed only for the fracturing process”
“conduits”	'800 Patent: Claim 18 '195 Patent: Claims 1, 2, 4, 7, 8 '879 Patent: Claims 1, 2, 6, 18, 19 '320 Patent: Claims 8, 10	Plain and ordinary meaning
“rigid fluid pathway”/ “rigid conduits”	'800 Patent: Claims 11, 18	Plain and ordinary meaning.

“configured to enable adjustments to the length and angular position of”	’662 Patent: Claim 9	Plain and ordinary meaning.
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II. Disputed Claim Terms

The parties disagree on the construction of the following terms in the Asserted Patents. The Court is guided by the general rule that “the words of a claim are generally given their ordinary and customary meaning.” *Phillips*, 415 F.3d at 1312–13. As noted previously, the ordinary and customary meaning of claim “is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1313. Importantly, the person of ordinary skill in the art is “deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.* Thus, the Court is to examine the ordinary meaning in the context of the written description and the prosecution history. *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005). Since terms are to be construed in the context of the claims themselves, and since the disputed terms are sometimes used in multiple patent families, the Court may construe the same term differently in different patents depending on how the term is being used.

This Court has carefully reviewed the Asserted Patents. It has considered the arguments and evidence presented in the claim construction briefing and at the *Markman* hearing. The Court has also reviewed and hereby applies the governing Federal Circuit authority. On this basis, the Court hereby construes the following patent terms as follows.

A. Terms Common to Multiple Patents

- “fracturing tree” as used in the ’879, ’320, and ’662 Patents

Cameron’s Proposal	Cactus’ Proposal
Plain and ordinary meaning. Alternatively, a fracturing tree is not an ordinary production tree and is one used specifically for the fracturing process.	“a tree used to facilitate a fracturing process, and does not require a tree of a particular size or weight or a tree that is temporarily installed only for the fracturing process”

The Court first notes that while the Federal Circuit affirmed a construction of “fracturing tree” for the ’800 Patent IPR (and, as noted above, the parties agreed to that construction here for the ’800 and ’195 Patents), that construction does not necessarily apply to *these* asserted patents because they are not related. *See SIPCO, LLC v. Emerson Elec. Co.*, 980 F.3d 865, 870 (Fed. Cir. 2020) (prior construction of similar term in one patent “ha[d] no impact” in present case that “involved different patents, in entirely different patent families, with different specifications”).

Cameron urges that the Court adopt the ordinary and customary meaning of “fracturing tree.” Cameron presented evidence that it is well-understood in the art that a “fracturing tree” is not an ordinary production tree but rather is one used specifically for the fracturing process. *See* (Doc. No. 64-1, Ex. C at ¶¶ 89–98) (Dr. Wooley explaining that “‘fracturing tree’ has an ordinary and customary meaning, which is a ‘specific type of Christmas tree installed specifically for the fracturing process’ and is ‘replaced by a standard Christmas tree (a production tree) after the fracturing’”); *see also* (Doc. No. 64-4 at ¶ 60) (Nitro’s expert in the ’800 Patent IPR explaining that fracturing tree “has a generally accepted meaning” as “a specific type of ‘Christmas tree’ which is installed to facilitate a fracturing job” and is “removed” after fracturing). Despite this evidence of a customary meaning, the PTAB and Federal Circuit did not apply this customary meaning in the ’800 Patent because they found that the term as used in the specification encompassed a broader definition by disclosing that the tree is capable of controlling the flow of not only fracturing fluids

but also production fluids (a chemical used during the production and not fracturing phase of hydraulic fracturing). *Nitro*, 2022 WL 636099 at *4.

Cactus does not present any conflicting evidence of the ordinary meaning in the art; nor does Cactus identify any intrinsic evidence in the '879, '320, and '662 Patents supporting its alternative construction. Instead, Cactus merely relies on the PTAB's construction for the '800 Patent to support its proposed construction for the other, unrelated patents.

The Court finds that “fracturing tree” in the '879, '320, and '662 Patents receives its “ordinary and customary meaning” in the art. *See Phillips*, 415 F.3d at 1312–13. The broader description of the '800 Patent justified a broader construction there, while the customary description in the '879, '320, and '662 Patents justifies the customary construction here. *See, e.g., Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp.*, 320 F.3d 1339, 1347 (Fed. Cir. 2003) (construing term more broadly where “the specification supports the broader meaning”).

- “fracturing manifold” as used in the '800, '195, and '879 Patents

- '800 and '195 Patents

Cameron's Proposal	Cactus' Proposal
“a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more fracturing trees that includes at least one valve.”	“an arrangement of piping, flow fittings, and at least one valve that creates a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more fracturing trees.”

- '879 Patent

Cameron's Proposal	Cactus' Proposal
Plain and ordinary meaning. Alternatively, [same construction as proposed above].	[same construction as proposed above]

Again, in the '800 Patent IPR, “fracturing manifold” and “fracturing fluid distribution manifold” were construed for the '800 and '195 Patents. The PTAB and Federal Circuit construed “fracturing manifold” in the same way that Cameron now proposes. Cactus disagrees with that

construction. Instead, it proposes a construction that it argues will help the jury more concretely understand what the manifold is by including a description of the fracturing manifold's physical components.

Upon examining the patents, law, and parties' briefings, the Court hereby adopts the following construction of "fracturing manifold" in the '800, '195, and '879 Patents: "a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more fracturing trees that includes as least one valve." This is the same construction approved by the Federal Circuit in the *Nitro* case. For the '800 and '195 Patents, the Court's decision to construe the term this way is largely based upon *stare decisis*. Indeed, "[u]nder the principles of *stare decisis* and the Supreme Court's guidance in *Markman*, [the Federal Circuit] follows the claim construction of prior panels absent exceptional circumstances." *Ottah v. Fiat Chrysler*, 884 F.3d 1135, 1140 (Fed. Cir. 2018) (citing *Brady Const. innovations, Inc. v. Perfect Wall, Inc.*, 290 Fed. App'x 358, 363 (Fed. Cir. 2008)). The use of "fracturing manifold" in the '879 Patent is consistent with this construction as well. Additionally, the Court finds that Cactus' proposal improperly imports limitations into the term, such as "an arrangement of piping, flow fittings, and at least one valve that creates a flow path." This proposal also unnecessarily creates confusion, for example, by including the term "flow fittings" without defining it.

- "trunk line" ('800 & '879 Patents) / "fracturing manifold trunk line" ('879 Patent) / "fracturing fluid supply line" ('320 Patent)

Cameron's Proposal	Cactus' Proposal
Plain and ordinary meaning. Alternatively, "a component of the fracturing manifold for routing fracturing fluid from the fluid supply comprised of pipes or conduits and connection blocks"	"conduit that provides fracturing fluid to multiple outlet branches of the fracturing manifold by routing fracturing fluid from the fluid supply to the valves that control the flow to each fracturing tree"

Upon examining the Asserted Patents, the applicable law, and the briefings by the parties, the Court finds that the '800, '879, and '320 Patents describe “trunk line” (or “supply line” in the '320 Patent) in substantively the same way using easily understood language, such that no construction is required. The Court hereby adopts the plain and ordinary language of the term.

B. Terms in the '195 Patent

- “goat head” as used in the '195 Patent

Cameron's Proposal	Cactus' Proposal
“a piping connector (i.e., a joint or flow cross) having an inlet and outlet for fluid flow”	“a fracturing head having an inlet and an outlet for fluid flow and capable of adjustment by changing at least one dimension or rotating about its axis”

The parties dispute the term “goat head.” In *Nitro*, Judge Hughes previously construed “goat head” to mean “a piping connector (i.e., a joint) having an inlet and an outlet for fluid flow, and capable of adjustment by changing at least one dimension or rotating about its axis.” Claims Construction Order (Doc. No. 128) in *Cameron Int'l Corp. v. Nitro Fluids L.L.C.*, No. 4:18-cv-2533 (S.D. Tex. March 10, 2021). The first part of this construction is consistent with Cameron's proposal, but the second part imports the “adjustment” limitation into the claims. Judge Hughes remarked that “the ordinary meaning in the industry and by the Patent Office for goat head does not account for adjustability, but the way that goat head is used in the patent runs contrary to that meaning.” (*Id.*). While Judge Hughes' construction may be helpful, it was not examined by the Federal Circuit in the *Nitro* appeal; so, as Cameron notes, it is not binding on this Court. *See TQP Dev., LLC v. Intuit Inc.*, No. 2:12-CV-180, 2014 WL 2810016, at *6 (E.D. Tex. June 20, 2014).

Considering the language of the claims and the intrinsic evidence, the Court finds that neither party's proposed construction is proper and instead construes the term “goat head” to mean “a piping connector (i.e., a joint or flow cross) having an inlet and outlet for fluid flow and capable of adjustment.” This construction closely tracks the construction suggested by Judge Hughes in

that it recognizes the limitation of adjustability; it differs from Judge Hughes' wording only in that it does not further limit the manner of adjustment (i.e. "by changing at least one dimension or rotating about its axis").

The '195 Patent specification equates "goat head" with "adjustable fracturing head" when it states that "adjustment joints [may be] provided in the form of adjustable fracturing heads [] (also commonly referred to as 'goat heads')." (Doc. No. 1-12 at 4:48-50). The specification also indicates a "goat head" is a type of "adjustment joint." (*Id.*); *see also* (*id.* at Claim 6) (reciting "wherein the adjustment joint includes a goat head").

In addition to the specification above, the prosecution history supports a construction of "goat head" that includes adjustability. *See Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005) ("We cannot look at the ordinary meaning of the term ... in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history."). Here, the Patent Examiner initially rejected all but three pending claims based on the ordinary meaning of "goat head," as used in the prior art, only to backtrack after admitting to misunderstanding "the applicant's definition of 'goat head' as recited in the claims." (Doc. No. 65, Ex. 6 at 21). The Examiner stated that the "original specification defines 'goat head' . . . as an **adjustable** fracturing head" and that "this definition is consistent with the originally filed drawings." (*Id.*) (emphasis added) (omission in original). In its conduct that followed, Cameron acquiesced to this narrowing definition.

For these reasons, the Court agrees with Cactus (and Judge Hughes) that "goat head" as used in the '195 Patent must account for adjustability. Accordingly, the Court construes "goat head" to mean "a piping connector (i.e., a joint or flow cross) having an inlet and outlet for fluid flow and capable of adjustment."

C. Terms in the '879 and '320 Patents

- “extends linearly” as used in the '879 and '320 Patents

Cameron's Proposal	Cactus' Proposal
Plain and ordinary meaning.	“is linearly adjustable”

Upon examining the Asserted Patents, the applicable law, and the briefings by the parties, the Court finds that the '879 and '320 Patents use the term “extends linearly” in a way that is easily understood and requires no construction. Cactus’ proposal improperly imports a limitation of adjustability to the term. The Court hereby adopts the plain and ordinary language of the term.

D. Terms in the '662 Patent

- “fracturing manifold” as used in the '662 Patent

Cameron's Proposal	Cactus' Proposal
Plain and ordinary meaning. Alternatively, “a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more fracturing trees that may include one or more valve(s).”	“an arrangement of piping and flow fittings that creates, without valves, a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more well fracturing trees and is positioned right up to each of the plurality of well fracturing trees without intervening frac iron, pipes, or fracturing heads”

The Court has already construed the term “fracturing manifold” for the other Asserted Patents above; however, the '662 Patent requires a slightly different construction of the term given its specifications. The '662 Patent uses “fracturing manifold” similar to its understood meaning in the art (such as in the '800 and '195 Patents) but differs in that the '662 Patent’s “fracturing manifold” may include—but importantly is not required to include—one or more valves, as reflected by Cameron’s construction. For example, the specification explains that in at least one embodiment of the '662 Patent, the fracturing manifold is directly integrated with the fracturing trees such that the manifold is “positioned right up to the fracturing trees without intervening frac iron, pipes, or fracturing heads.” (Doc. No. 9-3, '662 Patent at 4:14–23). Therefore, the Court finds that the meaning of “fracturing manifold” in the '662 Patent is “a flow path for the distribution of

fracturing fluid from a source of fracturing fluid to one or more fracturing trees that may include one or more valve(s)” as Cameron proposes.

The Court rejects Cactus’s proposal because it improperly imports limitations by requiring that the “fracturing manifold” exclude valves and is “positioned right up to each of the plurality of well fracturing trees without intervening frac iron, pipes, or fracturing heads.” In short, Cactus’ proposal imports negative limitations by requiring the exclusion of certain elements in contravention of the claim language. The Federal Circuit has “identified claim constructions that exclude a particular element as including a ‘negative limitation,’” which “must find support either in ‘the words of the claim’ or through an ‘express disclaimer or independent lexicography in the written description that would justify adding that negative limitation.” *Ethicon LLC v. Intuitive Surgical, Inc.*, No. 2020-1600, 2021 WL 960766, at *5 (Fed. Cir. Mar. 15, 2021). Here, the Court finds no support in the words of the claim or express disclaimer that would justify adding Cactus’ negative limitation. The example given in one possible embodiment does not require the fracturing manifold to exclude valves in their entirety.

E. Claims 1 and 8 of the ’662 Patent

Finally, in addition to the disputed terms above, there are two claims of the ’662 Patent that the parties dispute the validity of two claims. Cactus contends that Claim 1 and Claim 8 are indefinite. An “indefiniteness” challenge is based on the language in 35 U.S.C. § 112(b) that patents must include “claims particularly pointing out and distinctly claiming the subject matter” of the invention. This does not demand absolute precision—a claim is invalid for indefiniteness only if “its language, when read in light of the specification and the prosecution history, fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Massachusetts Inst. of Tech. v. Shire Pharms., Inc.*, 839 F.3d 1111, 1124 (Fed. Cir. 2016) (internal

citations omitted). This standard “mandates clarity, while recognizing that absolute precision is unattainable.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). Cactus must show the failure of any claim for indefiniteness by clear and convincing evidence. *Sonix Tech. Co., Ltd. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017). A claim is not indefinite if “the patent provides sufficient guidance to give one of ordinary skill reasonable certainty as to the scope of the claims.” *Ironburg Inventions Ltd. v. Valve Corp.*, 64 F.4th 1274, 1285 (Fed. Cir. 2023).

- **“wherein the fracturing manifold includes at least one adjustment joint that enables variation in the length of the fracturing manifold to accommodate variation in the distance between well fracturing trees of the plurality of well fracturing trees” (Claim 1)**

Cameron’s Proposal	Cactus’ Proposal
Not indefinite; plain and ordinary meaning.	Indefinite.

Cactus argues that Claim 1 is indefinite because “there are any number of possible ‘lengths’ that could be identified for the branching ‘flow path’ encompassed by Cameron’s construction.” (Doc. No. 65 at 22). In other words, it contends that “[t]here is no objective basis to determine which “length” is “the length of the fracturing manifold,” construed as broadly as Cameron proposes, because the “flow path” lacks any defined endpoints. Thus, under Cameron’s construction, claims 1–7 are indefinite.” (*Id.*). Cactus failed to provide any evidence, however, supporting this argument—either by way of expert testimony of a person of ordinary skill in the art (“POSITA”) or otherwise. Cactus appears to rely solely on argument of counsel.

By contrast, Cameron provides expert testimony from Dr. Gary R. Wooley confirming that Claim 1, in light of the specification, provides ample guidance to give one of ordinary skill reasonable certainty as to the scope of the claim, and thus is not indefinite. (Doc. No. 64 at 29). Dr. Wooley explains, “a POSITA would understand that wellheads and the fracturing trees installed on top of the wellheads may be unevenly spaced from one another and installed at different elevations, such that connecting a fracturing manifold to a fracturing tree may be

difficult.” (Doc. No. 64-1 at 10). Thus, it is his opinion that a POSITA would understand that adjusting the length of the manifold would accommodate the variation in the distance between fracturing trees and that the presence of at least one pivot joint would accommodate elevation differences between fracturing trees. (*Id.*).

Cactus does not dispute that Dr. Wooley is a person skilled in the art. Moreover, Cactus does not dispute that it is its burden to show indefiniteness by clear and convincing evidence. The Court concludes that Cactus has failed to meet its burden. Accordingly, the Court does not find Claim 1 of the ’662 Patent to be indefinite. While the challenged language may be verbose, a person of skill in the art would be able to ascertain with reasonable certainty the scope of the invention. Thus, the Court does not find the challenged claim to be indefinite or invalid at this stage of the litigation.

- **“valves of the well fracturing tree” / “additional valves of the at least one additional well fracturing tree” (Claim 8)**

Cameron’s Proposal	Cactus’ Proposal
Not indefinite; plain and ordinary meaning. Alternatively, “at least one valve that is coupled to the fracturing tree”	Indefinite. Alternatively: a “valve[] of the well fracturing tree” is a “valve that controls flow of the fracturing fluid into a wellhead and that is part of the well fracturing tree and not the fracturing manifold.”

Cactus argues that Claim 8 is indefinite *if* the Court adopts Cameron’s construction of “fracturing manifold” for the ’662 Patent (which it has adopted above). To recap: Cameron’s proposed construction, and the Court’s ultimate construction, of “fracturing manifold” indicates that the fracturing manifold may include valves but does not have to. If the manifold may include valves, Cactus contends that “determining whether these valves are part of the tree or part of the alleged manifold is an arbitrary line-drawing exercise for which the ’662 patent offers no objective guidance.” (Doc. No. 65 at 23). Cactus illustrates this point by including pictures of its accused system. It contends that the same pair of valves could be identified as both part of the well

fracturing tree and as part of the manifold. Since the '662 Patent does not instruct one on how to determine whether a valve is “of” the well fracturing tree or “of” the manifold, Cactus argues that the Court should find Claim 8 to be indefinite and, consequently, invalid.

The Court does not agree with Cactus’s argument and does not find that the Court’s construction of “fracturing manifold” (a construction that allows for valves) is necessarily inconsistent with Claim 8 or renders Claim 8 indefinite. First and foremost, Cactus again fails to provide any evidence that a POSITA would not understand the scope of the claim. Rather, Dr. Wooley explains that the claims and specification provide ample guidance of the scope of Claim 8. He states that Claim 8 is understood to encompass a fracturing manifold “coupled to the well fracturing tree by one or more valves of the well fracturing tree” which plainly means that the fracturing manifold is coupled to at least one valve that is also coupled to the fracturing tree. *See* (Doc. No. 64-1, at ¶¶ 35–37). Moreover, the specification describes “valves 50 of the fracturing trees 20” in the Figure 3 embodiment as “connecting each fracturing tree 20 to the fracturing manifold 22” and that are “used to control flow of fracturing fluid to the fracturing trees 20.” (Doc. No. 9-3, '662 Patent at 4:45–59). As one court recently put it: “one way a patent may resolve any indefiniteness concerns inherent in the claim language is by providing examples in the written description that guide a POSITA’s understanding of the claim’s scope.” *Science Applications Int’l Corp. v. United States*, 169 Fed. Cl. 643, 687 (2024) (citing *Niazi Licensing Corp. v. St. Jude Med. S.C., Inc.*, 30 F.4th 1339 (Fed. Cir. 2022)). Such is the case here. The '662 Patent provides examples in the written description explaining that “valves of the well fracturing tree” are valves that are coupled to the fracturing tree, thus guiding a POSITA’s understanding of the claim’s scope.

For these reasons, the Court finds that Cactus has not met its burden of showing that Claim 8 of the '662 is indefinite by clear and convincing evidence. Rather, the Court finds that a POSITA,

such as Dr. Wooley, would understand that Claim 8 provides reasonable certainty as to the scope of the claims.

III. Summary Construction Chart

The Court's rulings above are reflected in the following summary construction chart for the parties' convenience.

Term(s)	Patent(s) and Claim(s)	Cameron's Proposed Construction	Cactus's Proposed Construction	Court's Construction
<i>Terms Common to Multiple Patents</i>				
"fracturing tree"	'879 Patent: Claims 8, 9 '320 Patent: Claims 10, 11 '662 Patent: Claims 1, 2, 4, 5, 8, 11-13	Plain and ordinary meaning. Alternatively, a fracturing tree is not an ordinary production tree and is one used specifically for the fracturing process.	"a tree used to facilitate a fracturing process, and does not require a tree of a particular size or weight or a tree that is temporarily installed only for the fracturing process."	Plain and ordinary meaning.
"fracturing manifold" / "fracturing fluid distribution manifold"	'800 Patent: Claims 11, 14, 17, 18 '195 Patent: Claims 1, 4, 7, 8	"a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more fracturing trees that includes at least one valve."	"an arrangement of piping, flow fittings, and at least one valve that creates a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more fracturing trees."	"a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more fracturing trees that includes at least one valve."
"fracturing manifold"	'879 Patent: Claims 1, 13, 14, 18	Plain an ordinary meaning. Alternatively, "a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more fracturing trees that includes at least one valve."	"an arrangement of piping, flow fittings, and at least one valve that creates a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more fracturing trees."	"a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more fracturing trees that includes at least one valve."

<i>Terms Common to Multiple Patents</i>				
“trunk line” / “fracturing manifold trunk line” / “fracturing fluid supply line”	’800 Patent: Claims 11–14, 17, 18 ’879 Patent: Claims 1, 13, 14, 18 ’320 Patent: Claim 8	Plain and ordinary meaning. Alternatively, “a component of the fracturing manifold for routing fracturing fluid from the fluid supply comprised of pipes or conduits and connection blocks.”	“pipes or conduits that provides fracturing fluid to multiple outlet branches or legs of the fracturing manifold by routing fracturing fluid from the fluid supply to the valves that control the flow to each fracturing tree.”	Plain and ordinary meaning.
<i>Terms in the ’195 Patent</i>				
“goat head”	’195 Patent: claims 6, 7, 9, 10	“a piping connector (i.e., a joint or flow cross) having an inlet and outlet for fluid flow.”	“a fracturing head or flow cross having an inlet and an outlet for fluid flow and capable of adjustment by changing at least one dimension or rotating about its axis.”	“a piping connector (i.e., a joint or flow cross) having an inlet and outlet for fluid flow and capable of adjustment.”
<i>Terms in the ’879 and ’320 Patents</i>				
“extends linearly”	’879 Patent: claims 1, 2, 14 ’320 Patent: claim 8	Plain and ordinary meaning.	“is linearly adjustable.”	Plain and ordinary meaning.
<i>Terms in the ’662 Patent</i>				
“fracturing manifold”	’662 Patent: Claims 1-5, 8, 11-13	Plain and ordinary meaning. Alternatively, “a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more fracturing trees that may include one or more valve(s).”	“an arrangement of piping and flow fittings that creates, without valves, a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more well fracturing trees without intervening frac iron, pipes, or fracturing heads.”	“a flow path for the distribution of fracturing fluid from a source of fracturing fluid to one or more fracturing trees that may include one or more valve(s)”

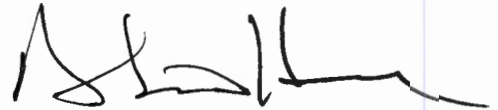
Claims in the '662 Patent

“wherein the fracturing manifold includes at least one adjustment joint that enables variation in the length of the fracturing manifold to accommodate variation in the distance between well fracturing trees of the plurality of well fracturing trees”	'662 Patent: Claim 1	Not indefinite; plain and ordinary meaning.	Indefinite	Not indefinite; plain and ordinary meaning.
“valves of the well fracturing tree” / “additional valves of the at least one additional well fracturing tree”	'662 Patent: Claim 8	Not indefinite; plain and ordinary meaning. Alternatively, “at least one valve that is coupled to the fracturing tree.”	Indefinite. Alternatively, “a “valve[] of the well fracturing tree” is a “valve that controls flow of the fracturing fluid into a well fracturing tree and that is part of the well fracturing tree and not part of the fracturing manifold.”	Not indefinite; plain and ordinary meaning.

IV. Conclusion

The Court has considered the evidence in the record, the parties' oral arguments and explanations during the *Markman* hearing, which the Court found very helpful and informative. Based on this consideration, as well as the application of governing claim construction principles, the Court construes the terms as described.

SIGNED at this 27th day of June, 2024.

A handwritten signature in black ink, appearing to read 'A. Hanen', written over a horizontal line.

Andrew S. Hanen
United States District Judge